WE CLAIM:

1. A noise compensation system comprising:

   a first compander section adapted to amplify a far-end signal based on a near-end noise level estimate.

2. The system as in claim 1 wherein the first compander section is further adapted to reduce the amplification of low level far-end noise based on a far-end noise level estimate.

3. The system as in claim 1 wherein the first compander section is further adapted to vary a compression range onset point based on a total gain derived from the near-end noise level estimate and a far-end speech level.

4. The system as in claim 1 further comprising a first NGC gain unit adapted to vary the ratio of compensation gain increase per near-end noise increase.

5. The system as in claim 1 further comprising a first NGC gain unit adapted to vary the ratio of compensation gain increase per near-end noise increase based on the near-end noise level estimate.

6. The system as in claim 1 further comprising:

a second compander section adapted to amplify a near end signal based on a far-end noise level estimate.

7. The system as in claim 6 wherein the second compander section is further adapted to reduce the amplification of low-level near-end noise based on the near-end noise level estimate.

8. The system as in claim 6 wherein the second compander section is further adapted to vary a compression range onset point based on a total gain derived from the far-end noise level estimate.

9. The system as in claim 6 further comprising a second NGC gain unit adapted to vary the ratio of compensation gain increase per far-end noise increase.

10. The system as in claim 6 further comprising a second NGC gain unit adapted to vary the ratio of compensation gain increase per far-end noise increase based on the far-end noise level estimate.

11. A method of compensating for noise in a compander comprising:

amplifying a far-end signal based on a near-end noise level estimate.

12. The method as in claim 11 further comprising reducing the amplification of low level far-end noise based on a far-end noise level estimate.

13. The method as in claim 11 further comprising varying a compression range onset point based on a total gain derived from the near-end noise level estimate and a far-end speech level.

14. The method as in claim 11 further comprising varying the ratio of compensation gain increase per near-end noise increase.

15. The method as in claim 11 further comprising varying the ratio of compensation gain increase per near-end noise increase based on the near-end noise level estimate.

16. The method as in claim 11 further comprising
amplifying a near end signal based on a far-end noise level estimate.

17. The method as in claim 16 further comprising reducing the amplification of low-level near-end noise based on a near-end noise level estimate.

18. The method as in claim 16 further comprising varying a compression range onset point based on a total gain derived from the far-end noise level estimate.

19. The method as in claim 16 further comprising varying the ratio of compensation gain increase per far-end noise increase.

20. The method as in claim 11 further comprising varying the ratio of compensation gain increase per far-end noise increase based on the far-end noise level estimate.